



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/812,141

03/19/2001

Hubertus V. Thomeer

56.0546CIP

1045

7590

03/28/2005

Schlumberger Technology Corporation  
Patent Counsel  
14910 Airline Road  
Rosharon, TX 77583-1590

EXAMINER

WONG, ALBERT KANG

ART UNIT

PAPER NUMBER

2635

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/812,141	<b>Applicant(s)</b> THOMEER ET AL.	
	<b>Examiner</b> Albert K Wong	<b>Art Unit</b> 2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 24-29, 31 and 43-60 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-29 and 31 is/are allowed.
- 6) ☒ Claim(s) 43-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2635

1. This Office action is in response to the Request for Continuation filed October 25, 2004. Claims 24-60 are pending. Claims 24, 28-29, 31, 43, and 45-46 have been amended as requested. New claims 47-60 have been entered. Claims 30 and 32-42 have been cancelled as requested.

2. It is noted that the subject matter of amended claim 24 is disclosed on page 14 of the specification. Although the teaching is limited, the claim is considered fully enabled when read in light of the entire specification. However, the specification lacks a drawing to show this embodiment. The Examiner will permit the addition of a drawing showing the claimed feature with a corresponding reference in the written portion of the specification. No new matter should be added.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed first and second downhole structures adapted to operate in a first and second fluid density must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

Art Unit: 2635

renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The prior rejections of the claims have been withdrawn in view of the cancelled claims and amended claims. The Examiner disagrees with applicant's characterization of the Aronstam reference. While the reference teaches one-way communication, one of ordinary skill in the art would recognize that any one-way communication system may be converted to a bi-directional system by including a transmitter and a receiver at each communication point. The prior rejections under Aronstam, however, have been withdrawn at this time in favor of prior art more closely directed toward the bi-directional communication feature.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 43-46 and 56-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sturm 5,991,602 in view of Aronstam 6,443,228.

Regarding claim 43, Sturm teaches a first and a second downhole structure with a non-acoustic transmitter/receiver unit for the exchange of data. See Figure 1. Thus, the steps of providing the structures and receiving signals is taught. Upon the exchange of data, values are

Art Unit: 2635

reprogrammed within the structures. Sturm does not teach addressable transponder units and thus does not explicitly teach id and target codes. Aronstam, in the same field, teaches id and target codes in col. 5. It would have been obvious to use addressable transponders with id and target codes so that a plurality of devices may operate within the same wellbore. Since value stored in a transponder may represent any data, this can represent id and target codes. The transfer of data results in the reprogramming of those codes.

Regarding claim 44, see Sturm, col. 3, lines 55-65.

Regarding claim 45, Sturm teaches the flowing of the devices to the surface to retrieve the transferred data. The data is transferred between the stationary and the moving transmitters. Aronstam teaches the transfer of data when the id and target codes match.

Regarding claim 46, Sturm teaches the storage of signals after the data is transmitted and received between the flowable devices and the underground devices.

Regarding claim 56, the steps of providing the first and second structures with non-acoustic transmitter/receiver units have been addressed above. The steps of receiving signals and reprogramming have also been addressed above. See claim 43. Sturm does not specifically teach the comparison of the target code with an id code. Aronstam, in the same field, teaches flowable transponders with id and target codes. See col. 5, lines 55-65. It would have been obvious to use the addressable devices as taught in Aronstam to provide the advantage of permitting a large number of transponders to operate with an environment since messages may be directed toward a particular transponder.

Regarding claims 57-58, Aronstam teaches the storing of data and the actuation of devices whenever an id and a target code matches.

Art Unit: 2635

Regarding claim 59, Sturm teaches the steps of providing a first and second downhole tool having a transmitter or a receiver, and transmitting a signal between the two tools. This is shown in figure 1 as the stationary and flowable objects. It is taught that data may be exchanged between flowable devices. Thus, it is possible to transfer data between two moveable tools within the wellbore. Sturm only teaches that one of the devices is moveable. Aronstam, in the same field, uses similar flowable devices and teaches that the flowable devices may exchange data. Thus, both downhole tools may be moveable. It would have been obvious to use the flowable devices in Aronstam within a wellbore as taught by Sturm to create a more flexible communication system.

Regarding claim 60, the flowable devices are autonomous.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 47-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Sturm.

Regarding claim 47, Sturm teaches a first and a second downhole structures with non-acoustic transmitter/receiver units. The transmission and reception of a signal between the structures is also taught as well as the reprogramming of one the units.

Regarding claim 48-49, the transmitted and received signal results in an exchange of data that results in the reprogramming of the other device.

Regarding claims 50 and 51, the flowable devices are moveable within the wellbore and data is transferred when the devices are within proximity of each other.

Art Unit: 2635

Regarding claim 52, the non-flowable device is secured within the well.

Regarding claim 53, the steps of providing the first and second structures, the transmission and reception of signals, and the reprogramming of devices in response to the signals have been addressed above. The flowable devices are moved with proximity of the stationary structure.

Regarding claim 54, see col. 3, lines 55-65.

Regarding claim 55, the flowable device is considered a drop ball.

8. Claims 24-29 and 31 are allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 703-305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Albert K. Wong

